



**American
Printing House
For The Blind
Incorporated**

Future Trends in the Education
of Blind Persons
Preliminary Report

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October 1986

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Design

The objective of this study was to answer the question What will be the state of the field of education of blind persons in the year 1991? It was decided that a modified Delphi technique would be used to reach consensus among experts in the field to this question.

The Delphi Technique was developed by Norman C. Dalkey and his associates at the Rand Corporation in 1948. Since that time, hundreds of studies have been performed using this technique. Studies related to forecasting, problem solving, needs assessment, and program design are readily found in the literature in the fields of business, education, medicine, and national defense.

The Delphi Technique typically utilizes experts within the field in question. Geographic location is not a constraint since the technique is usually performed via mail survey. The roster of experts is not disclosed to the participants since the strength of the technique is anonymity and isolated decision making. Delphi assumes that true consensus of opinion is best obtained without group interaction. Participants rate survey forms and return them to the investigator at which time the responses are compiled and a consensus determined. This process may be repeated several times until the consensus seems to stabilize. Each iteration is called a "round."

In January 1986, 25 individuals were systematically selected as participants in a modified Delphi study. Selection was based upon their professional training and experience in the field of blindness. Participants were chosen among four categories: public day school programs; residential school programs; personnel preparation programs; and other professionals working in the blindness field. A listing of participants may be found in the appendix.

Each participant was mailed a letter explaining the purpose and procedures of the project. The letter requested a written response to how the participants would forecast the field of education of blind persons in the year 1991. They were asked to "project what the field might be like five years from now." This exercise comprised the first round of the study.

Sixteen participants (64%) responded to the first round and generated over 250 statements for the 1991 future. In preparation for the second round, the statements were reviewed by the investigators for redundancy and subsequently reduced to 138 single sentence statements. Each statement was then edited for

grammar, spelling, and consistency of terminology. The final statements were randomly organized to reduce interstatement influences.

Under each statement were placed two seven-point Likert scales. One for "Likelihood" of occurrence and then another seven-point scale for "Desirability" of occurrence. The scale for Likelihood ranged from 1 - *Extremely Unlikely* to 7 - *Extremely Likely*. Similarly, the scale for Desirability ranged from 1 - *Undesirable* to 7 - *Extremely Desirable*. A sample statement and scales are provided in Table 1.

Table 1

Residential schools offer more summer programs in an effort to provide enrichment for public school students.

Likelihood (*Circle One*) 7 6 5 4 3 2 1

Desirability (*Circle One*) 7 6 5 4 3 2 1

The second round consisted of sending the prepared survey of 138 statements to all but one (the senior author) of the respondents of the first round ($N = 15$) and to an additional group of "experts" ($N = 20$) for a total sample of 35. Participants were asked to read each statement, analyze it for its individual worth, and rate it as to whether they thought it was likely to occur and then whether they thought it was desirable for it to occur.

Results

The response rate to the second round of the study was 31 out of the sample of 35 (89%). Of the first round respondents ($n = 15$), the response rate was 15 (100%). Of the additional group of experts ($n = 20$), the response rate was 16 (80%). Composition of the total group is found in Table 2.

Table 2

Response by category

<i>Public day school programs</i>	$\underline{n} = 11$	36%
<i>Residential school programs</i>	$\underline{n} = 10$	32%
<i>Personnel preparation programs</i>	$\underline{n} = 6$	19%
<i>Other professionals in blindness</i>	$\underline{n} = 4$	13%
<i>Total group</i>	$\underline{N} = 31$	100%

Ratings for the *likelihood* and *desirability* dimensions were compiled for each statement. Means were calculated for each dimension within each statement for the total group and each statement for the four categories of participants. The organization of the data was performed in four ways:

- (1) the means for *likelihood* (Table 3) were sorted and arranged in descending order with the highest mean ranking first. The 10 highest means for the total group were selected for analysis purposes. These statements were then ranked for each of the four subgroups. Presumably, these 10 would be the items most likely to occur by 1991.
- (2) Similarly, for *desirability* (Table 4), means were also arranged in descending order with the highest means first. These items should be the most desirable to occur by 1991.
- (3) the difference between the mean for *likelihood* and the mean for *desirability* was calculated for each statement. These differences were sorted and arranged in descending order. The criterion for these data was a mean difference (L-D) of 3.00 or more for the TOTAL GROUP. These statements were then ranked for the four subgroups. Fourteen statements qualified and are included in Table 5. These statements were considered high in likelihood of occurrence by 1991, but low in desirability of occurrence.

- (4) lastly, the difference between the mean for *desirability* and the mean for *likelihood* was calculated for each statement. These differences were sorted and arranged in descending order. The criterion for these data was a mean difference (D-L) of 3.00 or more for the TOTAL GROUP. These statements were then ranked for the four subgroups. These statements were considered high in desirability of occurrence by 1991, but low in likelihood of occurrence.

When examining these tables please note that identical rankings within categories indicates that the means or mean differences were the same.

Table 3

Ten Statements/Items Ranked Most Likely to Occur by Total Group

STATEMENTS/ITEMS	Rankings for				
	<u>Total group</u>	<u>Public school</u>	<u>Resid school</u>	<u>Pers prep</u>	<u>Other</u>
1. Costs for staff continue to increase.	1	5	3.5	1.5	2.5
2. There is an increase in the incidence of blindness in children due to the increased survival rate of babies with birth defects.	2.5	7	6	4.5	2.5
3. There is an increased use of computers by students for word processing and educational programs.	2.5	2.5	6	3	10
4. Microcomputers are integrated into academic programs for visually impaired.	4	1	1.5	9	8
5. The instructional materials centers established in the '70's continue to provide a critical service and the demands for services are increasing.	5.5	2.5	9	4.5	6
6. The field of education of the visually impaired continues to be under force to identify itself and its unique purposes in order to survive.	5.5	9.5	3.5	6.5	2.5
7. Students have become more complex throughout the continuum from superior to severely and profoundly retarded due to influential factors such as single parent families; poverty; medical advancements; limited resources for schools; social welfare, and rehabilitative services.	7.5	9.5	1.5	6.5	8
8. Residential schools offer more summer programs in an effort to provide enrichment for public school students.	7.5	5	6	9	5
9. Local schools continue to request services for severely handicapped students from residential schools.	9	8	8	9	2.5
10. There is an increased emphasis on computer technology in preparation programs for teachers of the visually impaired.	10	5	10	1.5	8

Table 4

Ten Statements/Items Ranked Most Desirable to Occur by Total Group

STATEMENTS/ITEMS	Rankings for				
	<u>Total group</u>	<u>Public school</u>	<u>Resid school</u>	<u>Pers prep</u>	<u>other</u>
1. A collaborative program between education and rehabilitation has resulted in real preparation for adult life for each student.	1	3.5	6.5	3.5	6.5
2. There are consistent, quality services for all infant and preschool visually impaired in recognition that this population needs intensive categorical services in both home and center based programs.	2	1.5	2.5	10	2.5
3. Preparation programs for teachers of the visually impaired have increased the level and scope of training for personnel to meet the wide variety of children identified.	4	1.5	6.5	7.5	6.5
4. There is more collaboration in planning between the residential schools and local school systems.	4	6	6.5	7.5	6.5
5. Educators have become more aware of what happens to their students after high school and the deficiencies they see have stimulated more practical, results oriented programming during the school years.	4	6	6.5	3.5	6.5
6. More jobs which were traditionally for sighted persons are available to visually impaired persons as technology equalizes opportunity.	6	10	2.5	1	2.5
7. Parents are adequately informed of their rights regarding the education of visually impaired children.	7	6	6.5	3.5	6.5
8. Residential schools offer more summer programs in an effort to provide enrichment for public school students.	9	8.5	10	3.5	10
9. A consistent and adequate supply of well prepared teachers of the visually impaired is available from our preparation programs.	9	8.5	1	7.5	1
10. Local school programs employ teachers and other specialists as required by the individual needs of the visually impaired students requiring service.	9	3.5	6.5	7.5	6.5

Table 5

Statements/Items with Likelihood/Desirability Mean Difference (L-D) of 3.00 or Greater by Total Group

STATEMENTS/ITEMS	Rankings for				
	Total group	Public school	Resid school	Pers prep	Other
1. Qualified teachers of the visually impaired are in short supply.	1	2	4	1	8
2. There is an increase in the incidence of blindness in children due to the increased survival rate of babies with birth defects.	2	1	1.5	2.5	10
3. There is an increase in the number of blind children.	3	4.5	6.5	2.5	3.5
4. There is a shortage of teacher trainers.	4	4.5	6.5	6	3.5
5. There is a number of visually impaired students mainstreamed into regular education programs who have to survive with little or no help from a trained teacher of the visually impaired.	5	10.5	1.5	4.5	1
6. The reason for the proliferation of the generic model is cost efficiency.	6	6	9.5	4.5	12.5
7. Over 50% of the visually impaired students are multihandicapped.	7.5	3	14	10	3.5
8. It has become necessary to hire poorly trained teachers not trained in the area of visually impaired and as a result the quality of schools and educational systems has declined.	7.5	8.5	11.5	7	6.5
9. There is little financial support for research except for the most immediate and applied problems.	9	10.5	13	8.5	3.5
10. Resources at all levels continue to be scarce and efforts to market programs to private sources have little success	10	12	4	12.5	11
11. There is considerable teacher and administrator burnout due to increased accountability demands.	11	7	9.5	12.5	14
12. Programs for the visually impaired at the local, state, regional and Federal levels are controlled by generalists.	12	14	11.5	8.5	6.5
13. Students have become more complex throughout the continuum from superior to severely and profoundly retarded due to influential factors such as single parent families; poverty; medical advancements; limited resources for schools; social welfare, and rehabilitative services.	13	8.5	4	14	12.5
14. State teacher certification departments have added the generic category for certification in response to the changing curricula at teacher training programs.	14	13	3	11	9

Table 6

Statements/Items with Desirability/Likelihood Mean Difference (D-L) of 3.00 or Greater by Total Group

STATEMENTS/ITEMS	Rankings for				
	<u>Total group</u>	<u>Public school</u>	<u>Resid school</u>	<u>Pers prep</u>	<u>Other</u>
1. A consistent and adequate supply of teachers of the visually impaired is available from our preparation programs.	1	1	1	1	1
2. Most local school programs respond to the unique needs of visually impaired students by providing a full range of service delivery models from self-contained classes to teacher consultants.	2	2	2	2	3
3. Local school programs respond to the unique needs of each visually impaired student by adapting programs so that teachers will have adequate time to address them.	3	3	3	3	2

Discussion

Since the analysis of all data related to this study is incomplete, the discussion will be highly subjective. Primary emphasis will be toward directing the reader's own analysis by classifying statements as to why they might occur.

When statements are generated in this type of study, they can take several forms, such as:

1. A statement whose course cannot be stopped, increased, or redirected since it is not under the control of people. Such statements are a component of planning.
2. A statement whose course is alterable since it is primarily under the control of people. If appropriate planning and redirection of other variables are taken into consideration its likelihood of occurrence may be increased or decreased. If, for instance, a particular statement is likely to occur, but highly undesirable, are there steps which can be taken now to attenuate its impact or likelihood of occurrence?

The data are presented (Tables 3-6) in two contrasting forms; one, where a single dimension is examined in complete isolation from the other; and, then where the dimensions are viewed as contrasting pairs. Both types of analyses can provide unique views into the probable future.

Table 3 examines the 10 most likely to occur statements. The consensus of the TOTAL GROUP was that these events would occur, but the ranking of statements in this table does not provide the reader with any evidence as to whether the group wanted these events to occur or did not. It is interesting to note that the majority of statements in this table have a positive connotation.

Table 4 examines the 10 most desirable to occur statements. As expected, all of these statements are highly positive, but they should reflect the way the group "would like" for things to be in 1991.

Table 5 is a ranking of the greatest difference in mean response between likelihood and desirability. While likelihood takes precedence in this table, the most significant attribute of these statements is that the group felt strongly that these events would occur and also strongly that they did not want them to occur. As expected, all of these statements are negative. It could be suggested that many of these "situations" could be the

basis for planning and change so that they, in fact, do not occur.

Similarly, Table 6 is a ranking of the greatest difference in mean response between desirability and likelihood. All of these statements are positive and were ranked highly desirable, but also they were considered highly unlikely to occur. Again, if such statements indicate what "we want," but are "unlikely to get," are they not goal statements which could be realized through a change in strategy?

While most of this discussion is conjecture, it remains interesting to consider which of these events will actually occur and, of those which are positive and appropriate for the growth and education of visually handicapped persons, for which will we be able to assume responsibility?

Appendix

PARTICIPANTS

<u>Name</u>	<u>Category</u>
Mrs. Carol Allman, Tallahassee, FL	Public Day School
Dr. Samuel C. Ashcroft, Nashville, TN	Personnel Preparation
Dr. Hank Baud, Talladega, AL	Residential School
Dr. Mike Bina, Austin, TX	Residential School
Miss Gloria Calovini, Springfield, IL	Other
Mrs. Pat Carpenter, Scottsdale, GA	Public Day School
Dr. Anne Corn, Austin, TX	Personnel Preparation
Ms. Sandra Adams Curry, Palo Alto, CA	Public Day School
Dr. Emerson Foulke, Louisville, KY	Other
Dr. Philip Hatlen, San Francisco, CA	Personnel Preparation
Dr. Dan Head, Little Rock, AR	Personnel Preparation
Dr. Richard E. Hyer, Jr., Macon, GA	Residential School
Mr. Vahram Kashmanian, Newark, NJ	Public Day School
Mr. Kevin J. Lessard, Watertown, MA	Residential School
Mr. Jonathan McIntire, St. Petersburg, FL	Public Day School
Mr. Oral O. Miller, Washington, DC	Other
Mr. Andrew S. Papineau, Madison, WI	Public Day School
Dr. Sandy Parsons, Columbia, SC	Personnel Preparation
Mr. Jerry L. Regler, Nebraska City, NE	Residential School
Dr. Lee W. Robinson, Austin, TX	Other
Mr. Pete Rossi, Newark, NJ	Public Day School
Dr. LaRhea D. Sanford, Nashville, TN	Public Day School
Dr. Janet Simon, Pittsburgh, PA	Residential School
Mr. Fred Sinclair, Sacramento, CA	Public Day School
Ms. Marilyn Sorensen, St. Paul, MN	Public Day School
Mr. Dennis Thurman, Spartanburg, SC	Residential School
Dr. Tuck Tinsley, St. Augustine, FL	Residential School
Dr. Dean W. Tuttle, Greeley, CO	Personnel Preparation
Mr. Jerry Watkins, Alamogordo, NM	Residential School
Dr. Richard L. Welsh, Baltimore, MD	Residential School
Mrs. J. Lynne Young, Wilmington, DE	Public Day School